

Amendments to the Claims

The following Listing of Claims will replace all prior versions and listings of claims in the application.

Listing of Claims

1. (Currently amended) A method for handling plug-and-play events occurring at a client, said method comprising:

(a) providing a client communicating with a server over a network using a presentation-level protocol;

(b) detecting an event notification of a plug-and-play event ~~notification~~ regarding a device in communication with the client;

(c) redirecting said event notification to the server from the client, before an operating system on the client can handle the plug-and-play event; and

(d) receiving, in response to the redirection of the event notification, a command from the server, the command directed to said device.

2. (Previously presented) The method of claim 1 wherein redirecting said event notification further comprises:

(c-1) generating a context identifier, said context identifier representing a virtual COM port;

(c-2) binding the context identifier to the event notification; and

(c-3) transmitting the bound context identifier and event notification to the server.

3. (Previously presented) The method of claim 1 wherein redirecting said event notification includes redirecting said event notification via a virtual channel.

4. (Previously presented) The method of claim 1, wherein receiving a command from the server further comprises:

(d-1) receiving from a server a command including a generated context identifier;

(d-2) identifying the device using the context identifier; and

(d-3) issuing a command to the identified device.

5. (Original) The method of claim 1 wherein said event notification is generated as a result of a device arrival.

6. (Original) The method of claim 5 wherein said command is an open command.

7. (Original) The method of claim 1 wherein said event notification is generated as a result of a device removal.

8. (Original) The method of claim 7 wherein said command is a close command.

9. (Original) The method of claim 1 wherein said event notification is associated with at least one of a GUID, vendor ID, product ID and actual device name.

10. (Original) The method of claim 1 wherein the device in communication with the client uses one of the USB (Universal Serial Bus) protocol, IEEE 1394 protocol, Bluetooth protocol, wi-fi protocol, wireless protocol, and infrared (IR) protocol to communicate with the client.

11. (Currently amended) A method for handling plug-and-play events occurring at a client in communication with a server using a presentation-level protocol, said method comprising:

a) receiving from said client an event notification of a plug-and-play event ~~notification~~ regarding a device in communication with the client;

redirecting the event notification to the server from the client, before an operating system on the client can handle the plug-and play event;

b) notifying an application program hosted by the server of the occurrence of the event notification;

c) receiving, in response to notification of the occurrence of the event notification, a command from the application program hosted by the server, the command directed to the device; and

d) transmitting to the client a command directed to the device.

12. (Previously presented) The method of claim 11 wherein the event notification from the client is received over a virtual channel.

13. (Previously presented) The method of claim 11 wherein the event notification includes a context identifier bound to the event notification, said context identifier representing a virtual COM port.

14. (Previously presented) The method of claim 11, further comprising: creating a server-unique name to identify the device connected to the client that generated the event notification, said server unique name used in mapping the client device to a specific session on the server established by the presentation level protocol.

15. (Previously presented) The method of claim 11 wherein notifying an application program further comprises: transmitting the event notification to applications communicating with the server within the session.

16. (Previously presented) The method of claim 11 wherein notifying an application program further comprises: transmitting the event notification only to applications communicating with the server which have previously registered a callback for a type of event causing the event notification.

17. (Original) The method of claim 11 wherein said event notification is generated as a result of a device arrival.

18. (Original) The method of claim 17 wherein said command is an open command.

19. (Original) The method of claim 11 wherein said event notification is generated as a result of a device removal.

20. (Original) The method of claim 19 wherein said command is a close command.

21. (Cancelled)

22. (Cancelled)

23. (Currently amended) A method for handling events occurring at a client in communication with a server using a presentation-level protocol, said method comprising:

~~a)~~receiving from said client an event notification regarding a device in communication with the client;

redirecting the event notification to the server from the client, before an operating system on the client can handle the event associated with the device in communication with the client;

~~b)~~notifying an application program hosted by the server of the occurrence of the event notification;

~~e)~~receiving, in response to notification of the occurrence of the event notification, a command from the application program hosted by the server, the command directed to the device; and

~~d)~~transmitting to the client a command directed to the device.

24. (Currently amended) A method for informing a server about the presence of devices connected to a client, said method comprising:

(a) providing a client communicating with a server over a network using a presentation-level protocol;

(b) emulating a plug-and-play event notification regarding a device in communication with the client;

(c) redirecting said emulated event notification to the server over a network, before an operating system on the client can handle the emulated plug-and-play event; and

(d) receiving, in response to the redirection of the event notification, a command from the server, the command directed to said device.

25. (Previously presented) The method of claim 24 wherein redirecting said emulated event further comprises:

(c-1) generating a context identifier, said context identifier representing a virtual COM port;

(c-2) binding the context identifier to the emulated event notification; and

(c-3) transmitting the bound context identifier and emulated event notification to the server.

26. (Currently amended) The method of claim 24 wherein redirection of the emulated event notification includes redirecting the redirection of the emulated event notification over ~~uses~~ a virtual channel.

27. (Previously presented) The method of claim 24, wherein receiving the command from the server further comprises:

- (d-1) receiving from a server a command identifying the generated context ID;
- (d-2) identifying the device using the context; and
- (d-3) issuing a command to the identified device.

28. (Previously presented) The method of claim 27 wherein the emulated event notification received from the client is received over a virtual channel.

29. (Previously presented) The method of claim 27 wherein the emulated event notification received includes a context ID bound to the emulated event notification.

30. (Previously presented) The method of claim 27 wherein redirecting said emulated event further comprises: broadcasting the emulated event notification to applications communicating with the server.

31. (Previously presented) The method of claim 27 wherein redirecting said emulated event further comprises: transmitting the emulated event notification only to applications communicating with the server which have previously registered a callback with the server for a type of event causing the emulated event notification.

32. (Previously presented) The method of claim 24, wherein said client is a proxy client on a server interfacing with at least one additional server.

33. (Currently amended) A method for informing a server about the presence of ~~devices~~ network resources connected to a proxy client, said method comprising the steps of:

- a) emulating a plug-and-play event notification regarding a device ~~network resource~~ in communication with the proxy client;
- b) redirecting said emulated event notification to a server before an operating system on the proxy client can handle the emulated plug-and-play event; and
- c) receiving, in response to the redirection of the event notification, a command from the server, the command directed to said ~~device~~ network resource.

34. (Currently amended) A computer-readable medium ~~program~~ having executable instructions for handling plug-and-play events occurring at a client communicating with a server over a network using a presentation-level protocol, the computer readable medium comprising:

- instructions for detecting ~~a~~ an event notification of a plug-and-play event ~~notification~~ regarding a device in communication with the client;
- instructions for redirecting said event notification to the server before an operating system on the client can handle the plug-and-play event; and
- instructions for receiving, in response to the redirection of the event notification, a command from the server, the command directed to said device.

35. (Previously presented) The computer-readable medium of claim 34 further comprising:

- instructions for generating a context identifier, said context identifier representing a virtual COM port;
- instructions for binding the context identifier to the event notification; and
- instructions for transmitting the bound context identifier and event notification to the server.

36. (Currently amended) The computer readable medium of claim 34 wherein instructions for redirecting said event notification include instructions to redirect the event notification to the

server over ~~that use a virtual channel to redirect said event notification.~~

37. (Currently amended) The computer readable medium of claim 34 wherein instructions for receiving a command from the server, further comprise:

instructions for receiving a command from a server that include ~~includes~~ the generated context identifier;

instructions for identifying the device using the context identifier; and

instructions for issuing a command to the identified device.

38. (Previously presented) The computer readable medium of claim 34 wherein said event notification is generated as a result of a device arrival.

39. (Previously presented) The computer readable medium of claim 38 wherein said command is an open command.

40. (Previously presented) The computer readable medium of claim 34 wherein said event notification is generated as a result of a device removal.

41. (Previously presented) The computer readable medium of claim 40 wherein said command is a close command.

42. (Previously presented) The computer readable medium of claim 34 wherein said event notification is associated with at least one of a GUID, vendor ID, product ID and actual device name.

43. (Previously presented) The computer readable medium of claim 34 wherein the device in communication with the client uses one of the USB (Universal Serial Bus) protocol, IEEE 1394 protocol, Bluetooth protocol, wi-fi protocol, wireless protocol, and infrared (IR) protocol to communicate with the client.

44. (Currently amended) A computer readable medium having executable instructions for

handling plug-and-play events occurring at a client communicating with a server over a network using a presentation-level protocol, the computer readable medium comprising:

instructions for receiving from said client ~~a~~ an event notification of a plug-and-play event notification regarding a device in communication with the client;

instructions for redirecting the event notification to the server from the client, before an operating system on the client can handle the plug-and-play event;

instructions for notifying an application program hosted by the server of the occurrence of the event notification;

instructions for receiving, in response to notification of the occurrence of the event notification, a command from the application program hosted by the server, the command directed to the device; and

instructions for transmitting to the client a command directed to the device.

45. (Previously presented) The computer readable medium of claim 44 wherein the event notification is received over a virtual channel.

46. (Previously presented) The computer readable medium of claim 44 wherein the received event notification includes a context identifier bound to the event notification, said context identifier representing a virtual COM port.

47. (Previously presented) The computer readable medium of claim 44, further comprising:

instructions for creating a server-unique name to identify the device connected to the client that generated the event notification, said server unique name used in mapping the client device to a specific session on the server established by the presentation level protocol.

48. (Previously presented) The computer readable medium of claim 44 wherein the instructions for notifying an application program hosted by the server of the occurrence of the event notification further comprise: instructions for transmitting the event notification to applications communicating with the server within the session.

49. (Previously presented) The computer readable medium of claim 44 wherein the instructions

for notifying an application program hosted by the server of the occurrence of the event notification further comprise: instructions for transmitting the event notification only to applications communicating with the server which have previously registered a callback for a type of event causing the event notification.

50. (Previously presented) The computer readable medium of claim 44 wherein said event notification is generated as a result of a device arrival.

51. (Previously presented) The computer readable medium of claim 50 wherein said command is an open command.

52. (Previously presented) The computer readable medium of claim 44 wherein said event notification is generated as a result of a device removal.

53. (Previously presented) The computer readable medium of claim 52 wherein said command is a close command.

54. (Cancelled)

55. (Cancelled)

56. (Currently amended) A computer readable medium having executable instructions for handling events occurring at a client communicating with a server over a network using a presentation-level protocol, the computer readable medium comprising:

instructions for receiving from the client an event notification regarding a device in communication with the client;

instructions for redirecting the event notification to the server from the client, before an operating system on the client can handle the event associated with the device in communication with the client;

instructions for notifying an application program hosted by the server of the occurrence of the event notification;

instructions for receiving, in response to notification of the occurrence of the event notification, a command from the application program hosted by the server, the command directed to the device; and

instructions for transmitting to the client a command directed to the device.

57. (Currently amended) A computer readable medium having executable instructions for informing a server about the presence of devices connected to a client communicating with a server over a network using a presentation-level protocol, the computer readable medium comprising:

instructions for emulating a plug-and-play event notification regarding a device in communication with the client;

instructions for redirecting said emulated event notification to a server before an operating system on the client can handle the emulated plug-and-play event; and

instructions for receiving, in response to the redirection of the event notification, a command from the server, the command directed to said device.

58. (Previously presented) The computer readable medium of claim 57 wherein the instructions for redirecting said emulated event notification further comprise:

instructions for generating a context identifier, said context identifier representing a virtual COM port; computer-readable program means for binding the context identifier to the emulated event notification; and

instructions for transmitting the bound context identifier and emulated event notification to the server.

59. (Previously presented) The computer readable medium of claim 57 wherein the redirection of the emulated event notification uses a virtual channel.

60. (Previously presented) The computer readable medium of claim 57, wherein the instructions for transmitting the bound context identifier and emulated event notification to the server further comprise:

instructions for receiving from a server a command identifying the generated context ID;

instructions for identifying the device using the context; and
instructions for issuing a command to the identified device.

61. (Previously presented) The computer readable medium of claim 60 wherein the emulated event notification is received over a virtual channel.

62. (Previously presented) The computer readable medium of claim 60 wherein the emulated event notification includes a context ID bound to the emulated event notification.

63. (Previously presented) The computer readable medium of claim 60 wherein the instructions for identifying the device using the context further comprise: instructions for broadcasting the emulated event notification to applications communicating with the server.

64. (Previously presented) The computer readable medium of claim 60 wherein the instructions for identifying the device using the context further comprise:

instructions for transmitting the emulated event notification only to applications communicating with the server which have previously registered a callback with the server for a type of event causing the emulated event notification.

65. (Previously presented) The computer readable medium of claim 57, wherein said client is a proxy client on a server, said server interfaced with at least one additional server.

66. (Currently amended) A computer readable medium having executable instructions for informing a server about the presence of devices ~~network resources~~ connected to a proxy client, the computer readable medium comprising:

instructions for emulating an event notification of a plug-and-play event ~~notification~~ regarding a device ~~network resource~~ in communication with the proxy client;

instructions for redirecting said emulated event notification to a server, before an operating system on the client can handle the plug-and-play event; and

instructions for receiving, in response to the redirection of the event notification, a command from the server, the command directed to said device ~~network resource~~.

67. (Cancelled)

68. (Currently amended) A method for handling plug-and-play events occurring at a client, said method comprising:

(a) detecting ~~a~~ an event notification of a plug-and-play event notification regarding a device communicating with the client via a USB connection on the client;

(b) redirecting said event notification to a server over a network, before an operating system on the client can handle the plug-and-play event; and

(c) receiving, in response to the redirection of the event notification, a command from the server, the command directed to said device.

69. (Original) The method of claim 68 wherein said event notification is generated as a result of a device arrival.

70. (Original) The method of claim 69 wherein said command is an open command.

71. (Original) The method of claim 68 wherein said event notification is generated as a result of a device removal.

72. (Original) The method of claim 71 wherein said command is a close command.

73. (Original) The method of claim 68 wherein said event notification is associated with at least one of a GUID, vendor ID, product ID and actual device name.

74. (Previously presented) The method of claim 68 wherein redirecting said event notification further comprises:

(b-1) generating a context identifier, said context identifier representing a virtual COM port;

(b-2) binding the context identifier to the event notification; and

(b-3) transmitting the bound context identifier and event notification to the server.

75. (Previously presented) The method of claim 68 wherein redirecting said event notification further comprises redirecting said event notification via a virtual channel.

76. (Previously presented) The method of claim 68, receiving a command from the server further comprises:

- (c-1) receiving from a server a command including a generated context identifier;
- (c-2) identifying the device using the context identifier; and
- (c-3) issuing a command to the identified device.